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C O N F I D E N T I A L SECTION 01 OF 03 HONG KONG 000113

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TAGS: ENRG EPET SENV CH HK
SUBJECT: HK'S POWER SECTOR: EMISSIONS AND FUEL CHALLENGES

REF: HONG KONG 01812

Classified By: CONSUL GENERAL JOSEPH DONOVAN REASONS 1.4 (B,D)

¶1. (SBU) Summary: Hong Kong,s electrical power providers are on track to meet strict new Hong Kong Government (HKG) air pollution caps, which go into effect on January 1, 2010. The utilities plan to meet the industry-targeted caps by retrofitting pollution control equipment on some coal-fired generators and converting others to burn liquid natural gas (LNG). These plans, however, depend strongly on now-uncertain, long-term LNG supplies and the continued ability to import low sulphur/low ash coal from Indonesia. End Summary.

¶2. (C) Comment: The 2002 Hong Kong-Guangdong pollution reduction agreement driving the establishment of emissions caps did not anticipate the Energy MOU the HKG signed with mainland China in August, 2008 (Reftel). Under this MOU, Hong Kong effectively gave up a significant degree of energy autonomy by linking LNG supplies firmly to Mainland facilities; the MOU resulted in the immediate cancellation of long-standing plans to build an LNG terminal in Hong Kong, leaving the utilities completely dependent on Mainland pipelines and infrastructure for their LNG supplies. Hong Kong utilities have serious doubts about mainland China's ability to provide the necessary LNG. Without increased and stable LNG supplies, power providers believe they will be unable to consistently meet the 2010 emissions caps, making Hong Kong,s air quality the first casualty of increased energy dependence on the Mainland. The new caps also do nothing to address the most publicly complained-about type of air pollution) road-side vehicle emissions trapped in the city's urban street canyons.

2010 Emission Caps and Heavy Fines

¶3. (SBU) Citing electrical power generation as the largest single source of locally produced air pollution, the HKG published a technical memorandum to the existing Pollution Control Ordinance on November 7, 2008. The new regulation targets Hong Kong,s electricity providers by restricting pollution emissions from electrical power generation plants. Under the regulation, effective January 1, 2010, utility-generated levels of pollutants will be capped at 25,120 tons of Sulphur Dioxide (SO2), 42,600 tons of Nitrogen Oxides (NOX) and 1,260 tons of Resperable Suspended Particulates (RSP) per year. These limits will be split between Hong Kong,s two utility providers, China Light and Power (CLP) and Hong Kong Electric (HK Electric). Under the regulation, the utilities must further break down the caps by allocating them to individual power stations based on the percentage of that station's contribution to Hong Kong,s power grid. (Note: CLP owns the distribution network and operates three power stations in a joint-venture partnership with ExxonMobil, supplying electrical power to Kowloon and the New Territories. HK Electric owns and operates one power station on Hong Kong,s Lamma Island, supplying power to Hong

Kong Island. End Note.)

¶4. (SBU) The HKG and Guangdong Provincial Government agreed in 2002 to improve regional air quality through specific emission reductions by 2010. The 2010 emission caps are the key part of Hong Kong's plan to meet its obligations under this agreement. After January 1, 2010, utilities not meeting the emission limits will be subject to escalating fines beginning at HKD $30,000 per excess ton of pollutants. Repeated failure to meet the caps could result in jail time for company officials. Neither utility participated directly in the process to set the caps, but both knew well in advance what the caps would be and planned accordingly. The power providers plan to meet the new standards by adding state-of-the-art scrubbers and other specialized control equipment to some of their coal-fired boilers and converting others to burn much cleaner LNG.

CLP) On Track, but Facing LNG Uncertainty

¶5. (C) CLP officials told Econoff that CLP is on track to meet the 2010 air quality standards, but they are concerned about their ability to meet both increasing demands for power and the emission cap requirements after 2012 due to uncertain LNG supplies. CLP, Hong Kong,s largest utility, generates approximately 33 percent of its power from coal-fired plants, 33 percent from LNG, and gets the remaining 33 percent of its power from mainland China,s Daya Bay Nuclear Power Station. A five percent stake holder in Daya Bay, CLP is obligated under a fixed contract to purchase 70 percent of the nuclear power station,s output. CLP,s primary coal-fired plant has

already been upgraded with flue gas desulphurisation equipment and other advanced technology to drastically reduce sulphur and NOX emissions.

¶6. (C) CLP originally planned to further reduce its emissions by converting additional boilers to LNG, raising its total percentage of LNG-generated power to 50 percent. Gas supplies for the conversions depended on completion of an LNG terminal on Hong Kong,s Soko Island, but approval and construction of the Soko Island terminal, a one billion USD investment, was killed when the HKG unexpectedly signed an energy MOU with the Mainland authorities on August 28, 2008 (Reftel). Under terms of the MOU, the China National Offshore Oil Corporation (CNOOC) will continue to supply Hong Kong with LNG at market prices for the next 20 years. CLP officials do not see how CNOCC will be able to meet the demand. CLP currently gets 100 percent of its LNG through a 780-kilometer undersea pipeline from the Yacheng gas field, located in the South China Sea just off Hainan Island. The Yacheng field reached peak production in 2008; CLP analysts expect it to be completely depleted by 2013.

¶7. (C) CLP officials believe CNOOC cannot increase supplies of natural gas without significant new discoveries, and even if supplies are discovered, the infrastructure needed to get the LNG to their power plants in Hong Kong could take years to plan and build. In the face of uncertain supplies, CLP officials are scaling back plans to convert additional burners to LNG and are actively considering plans to reduce dependence on LNG as a fuel for power generation from the current 33 percent to as low as 25 percent. By controlling the growth in projected demand and reducing consumption, and thus the off-take from the Yacheng Field, CLP hopes to extend the field's life and buy time to work out a solution to their long-term LNG needs. This strategy, CLP believes, runs a high risk of violating the emissions caps. One possible solution is for the HKG to ask CNOOC to build an additional LNG terminal in Guangdong near Hong Kong, possibly with CLP/ExxonMobil participation. CLP would also like to increase the amount of power it can draw from the Daya Bay Nuclear Power Station, but this would require building additional reactor units, again only a longer-term

possibility.

HK Electric) Better Off but More Dependent on Coal

¶8. (C) HK Electric, the Special Administrative Region,s second utility provider, supplies Hong Kong Island,s power needs through a single large power plant on Lamma Island. HK Electric officials are planning to meet the new air quality requirements by converting coal-fired boilers to LNG and installing additional pollution control equipment. HK Electric currently generates 20 percent of its power from LNG and 80 percent from coal. Pollution control upgrades and conversion work will be completed this August, increasing the company's LNG use to 30 percent. Additional conversions are planned which should bring the overall LNG/coal fuel mix ratio to 50 percent LNG and 50 percent coal by 2015. Like CLP, HK Electric,s ability to meet the new air quality caps depends on converting generators to use LNG and the ability to increase LNG supplies.

¶9. (C) HK Electric,s LNG is shipped from gas fields in Northern Australia to a small LPG terminal in Shenzhen and then piped across the border to their Hong Kong power plant. The Shenzhen LPG terminal is expanding its capacity and HK Electric is in negotiations with Qatar to secure additional long-term contracts for LNG, leaving it in good shape for this fuel source. Unfortunately, the Shenzhen LNG terminal,s location and existing customer commitments make it unviable as an option to supply CLP,s needs.

Coal as a Problem for Both Utilities

¶10. (C) Both CLP and HK Electric officials told Econoff they have serious concerns about the quality and reliability of coal supplies. Low-sulphur/low-ash coal from mainland China is not available, leading both utility providers to import all their coal from Indonesia. According to HK Electric officials, the coal delivered is often of lower thermal quality or under the contracted tonnage. The contracts are negotiated through Indonesian brokers, who, the utilities claim, are often unresponsive to their complaints. Coal prices are also volatile, recently reaching historic highs and then dropping dramatically, making planning difficult. For now, both CLP and HK Electric report their coal problems are manageable and coal supplies are stable, though the lower-than-promised quality impacts the ability to meet the pollution requirements and price fluctuations are making

power generation costs hard to control.
DONOVAN